

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived  
Trp29-Arg1029, with a C-terminal 6-His tag  
Accession # P01132

**N-terminal Sequence Analysis** Trp29

**Predicted Molecular Mass** 110 kDa

**SPECIFICATIONS**

**SDS-PAGE** 160 kDa, reducing conditions

**Activity** Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. Rubin, J.S. *et al.* (1991) Proc. Natl. Acad. Sci. USA **88**:415.  
The ED<sub>50</sub> for this effect is 1-5 ng/mL.

**Endotoxin Level** <0.01 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in sterile PBS.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

EGF is the prototypic member of a family of growth factors that also includes amphiregulin, betacellulin, epigen, epiregulin, HB-EGF, neuregulins-1 through -6, and TGF-α (1). These proteins contain EGF-like domains with three intramolecular disulfide bonds between conserved cysteines (2). EGF family members are synthesized as transmembrane preproteins with varying numbers of EGF-like domains (3). The extracellular region of mouse pro-EGF contains eight LDL R class B repeats and nine EGF-like domains (4). Mature EGF is derived from the juxtamembrane EGF-like domain. EGF binds ErbB1 and induces the formation of homodimers or heterodimers containing ErbB2 (5). Pro-EGF is most highly expressed in the submaxillary gland and kidney (6). In the kidney, the 190 kDa preprotein is cleaved by membrane-associated serine proteases, liberating the extracellular region which is subsequently processed into smaller fragments including the 6 kDa mature EGF (7 - 10). The various cleavage products produced in the kidney also are present in urine (9 - 11). In the submaxillary gland, however, nearly all EGF is processed intracellularly and stored in secretory vesicles (6, 12). The soluble precursor binds ErbB1 and induces cellular proliferation, although it is significantly less potent than mature EGF (8, 9). In human thyroid carcinoma cells, a splice variant of pro-EGF with a deletion in the cytoplasmic domain induces increased proliferative activity relative to wild-type pro-EGF (13). Within the extracellular region, mouse pro-EGF shares 79% amino acid sequence identity with rat pro-EGF and 67% - 69% with human, canine, feline, and porcine pro-EGF.

**References:**

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